Enzyme-linked immunosorbent assay by enhanced chemiluminescence detection for standardization of miroestrol in Pueraria candollei

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• Congress Abstract

Miroestrol is potent phytoestrogen from Pueraria candollei tuberous root [1]. To ensure medical efficacy and safety, analytical methods of miroestrol are required for product standardization of P. candollei root [2 – 3]. Enhanced chemiluminescence enzyme linked immunosorbent assay (ECL-ELISA) was developed and validated using polyclonal antibody against miroestrol and chemiluminescence system of luminol-H2O2-horseradish peroxidase-4-(1-imidazolyl) phenol. The ECL-ELISA system exhibited the linearity of 0.31 – 10.00 ng/ml, which the relative standard variation (% RSD) are less than 10% of both intra- and interplate determinations. The ECL-ELISA is reliable to determine miroestrol reflected by high percentage of recovery (101.22 – 103.06%). As comparative analysis, ME contents in each sample determined by ECL-ELISA were correlated with high coefficient of determination to colorimetric ELISA (R2= 0.998) and HPLC method (R2= 0.998). This method could be applied to all sampled of P. candollei root involved commercial products, which theses products contained 0.71 – 13.12 µg/g dry wt. of miroestrol. Totally, this method is useful as high performance analytical method for miroestrol quantity control in raw material and its product for both research and industrial levels.

Keywords: Pueraria candollei, miroestrol, Enzyme -Linked Immunosorbent Assay, Enhanced chemiluminescence

References:

